

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/055829 A1

(51) International Patent Classification⁷: **A61B 6/00**

(21) International Application Number:
PCT/IB2004/052612

(22) International Filing Date: 1 December 2004 (01.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03104582.6 8 December 2003 (08.12.2003) EP

(71) Applicant (for DE only): **PHILIPS INTELLECTUAL
PROPERTY & STANDARDS GMBH** [DE/DE]; Stein-
damm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US):
KONINKLIJKE PHILIPS ELECTRONICS N. V.
[NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven
(NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MANZKE, Robert**

[DE/DE]; c/o Philips Intellectual Property & Standards
GmbH, Weisshausstr. 2, 52066 Aachen (DE). **GRASS,
Michael** [DE/DE]; c/o Philips Intellectual Property &
Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

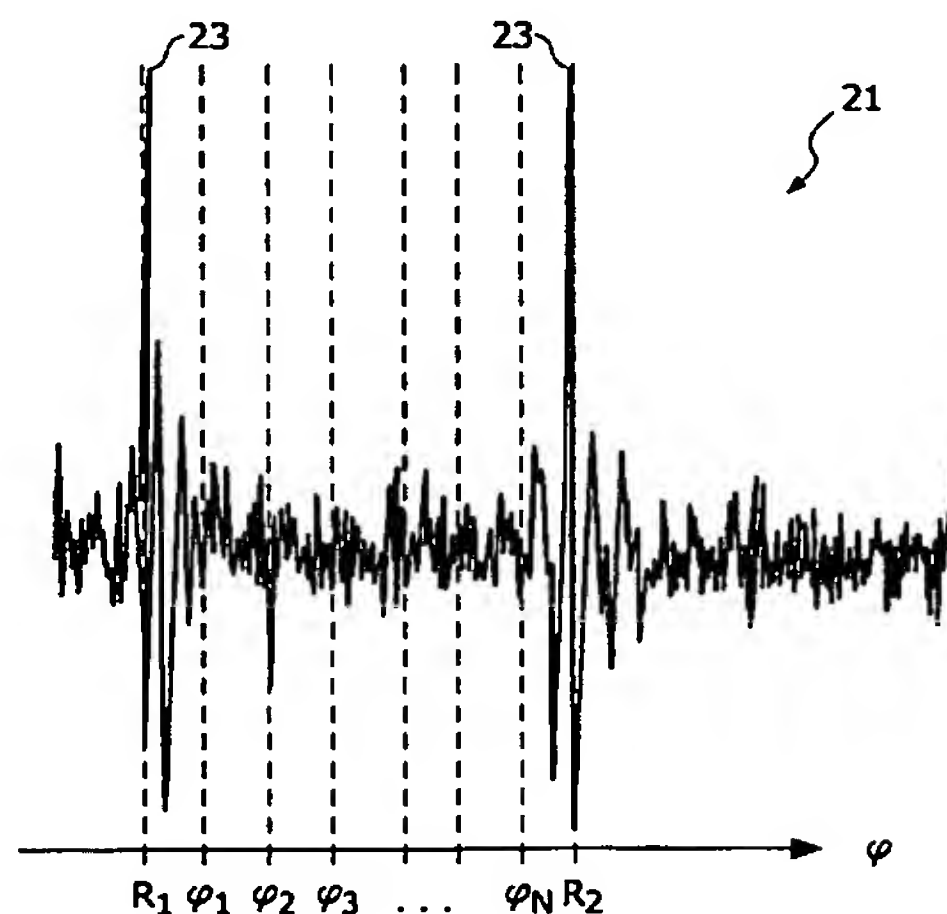
(74) Agents: **MEYER, Michael** et al.; Philips Intellectual
Property & Standards GmbH, Weisshausstr. 2, 52066
Aachen (DE).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

[Continued on next page]

(54) Title: **COMPUTER TOMOGRAPHY METHOD FOR OBJECTS MOVING PERIODICALLY**



(57) Abstract: The invention relates to a computer tomography method in which a bundle of rays passes through an object that is moving periodically, in particular a heart. During the acquisition of measured values, a movement signal dependent on the movement of the object is sensed. From this movement signal are determined periodically repeated phases of movement, after which a plurality of intermediate images of a region of the object are reconstructed, in particular at a low resolution, using measured values whose times of acquisition were situated in different phases of movement, thus enabling each intermediate image to be assigned to a phase of movement. The phase of movement in which the object moved least in the region is then identified by determining the intermediate image having the fewest motion artifacts. Finally, a computer tomographic image of the region is reconstructed, in particular with a high spatial resolution, from measured values whose times of acquisition were situated in the phase of movement in which there was the least movement by the object in said region.

WO 2005/055829 A1



FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*